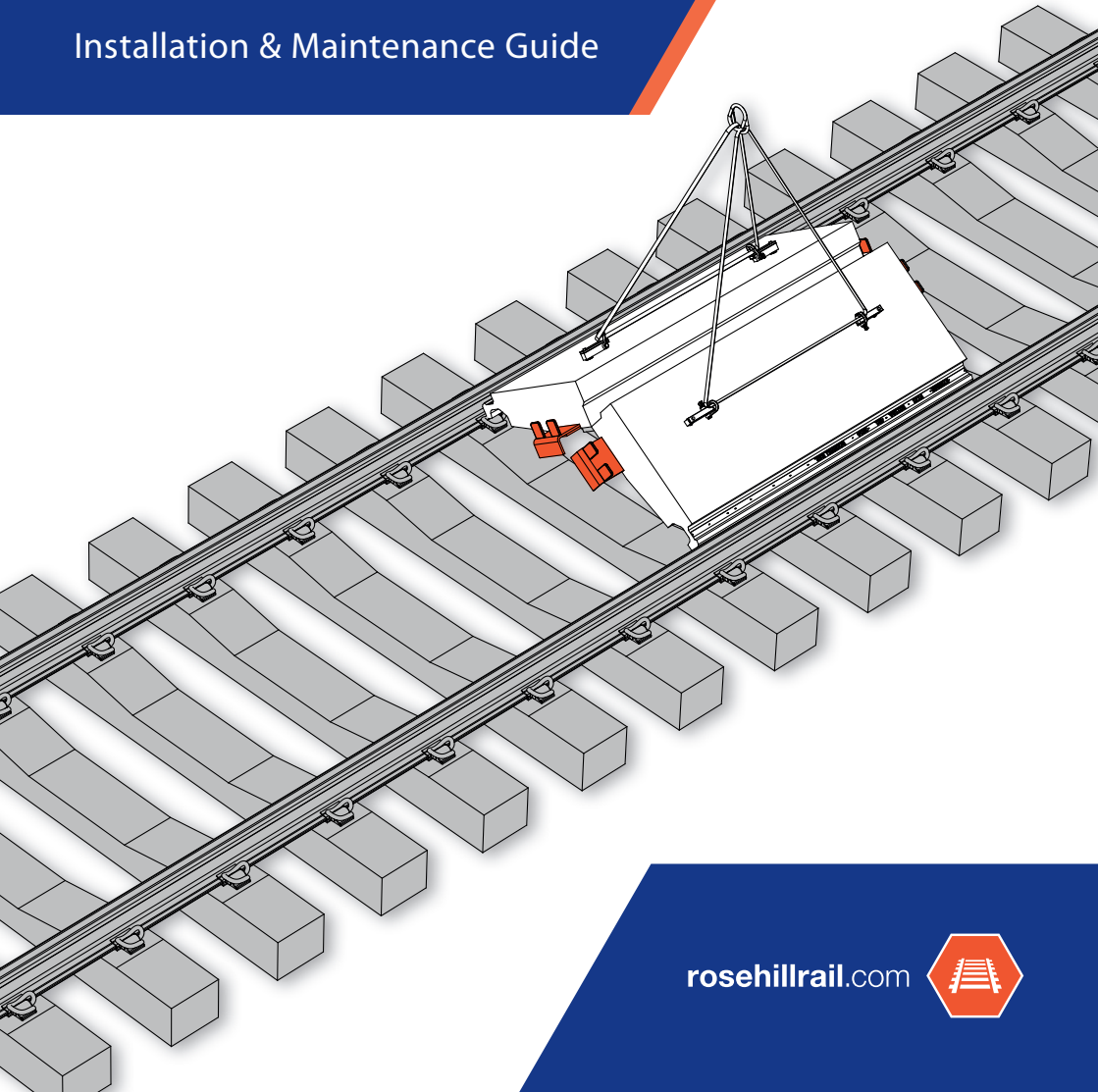




**Rosehill** Rail

# Baseplated Crossing System

Installation & Maintenance Guide



[rosehillrail.com](http://rosehillrail.com)



## Step-By-Step Installation & Maintenance Guide

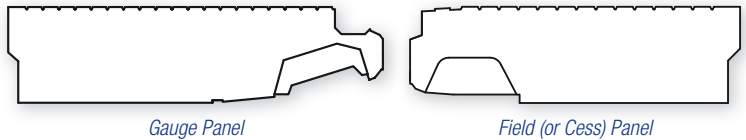
This guide is designed to help you to install and maintain the crossing correctly and save you time.

It covers the components of the crossing, the tools you'll need and the steps you'll need to follow when installing or maintaining the crossing.

**! Before you begin** – read over this guide to see what is involved at each stage.

### Crossing System Components

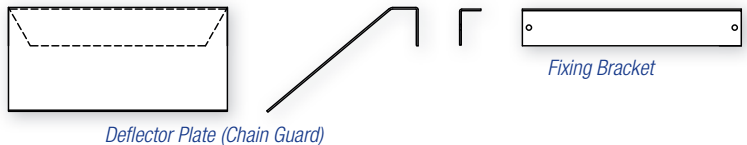
#### Panels



#### Baseplates

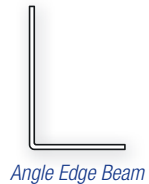
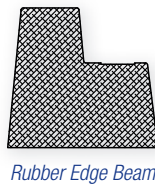


#### Deflector Plate



Other materials you may need:

#### Edge Beams



**Lean-mix concrete** as required

## Tools & Equipment You'll Need

To ensure a safe installation you'll need the following tools and equipment:

- **Rosehill Rail Lifting Pins**
- **Telehandler or other suitable lifting machinery**
- **Rail slewing bars x 4**
- **14lb rubber mallets**
- **Shovels**
- **Ballast fork**
- **Reciprocating saw**
- **Survey marking paint**
- **Tape measure**
- **Club hammer**
- **Cordless drill**

**Note:** where edge beams are being installed a vibratory compactor will be required.

## Preparation

- ❗ **Before you begin** – double-check that you have all the parts required against the order list and that these meet the specification. The rail, sleeper, fixing and crossing type are all imprinted on each panel.
- ✓ Visually check that the panels have not been damaged in transit.
- ✓ Check that sleepers are correctly spaced at 600mm centres +/- 40mm (although not cumulative).
- ✓ Ensure that the rails, clips and sleepers are clear of any debris and that all ballast is just below or flush with the top of the sleepers, rake flat / flush if necessary.

## Technical Support

If you have any technical queries, please contact us.

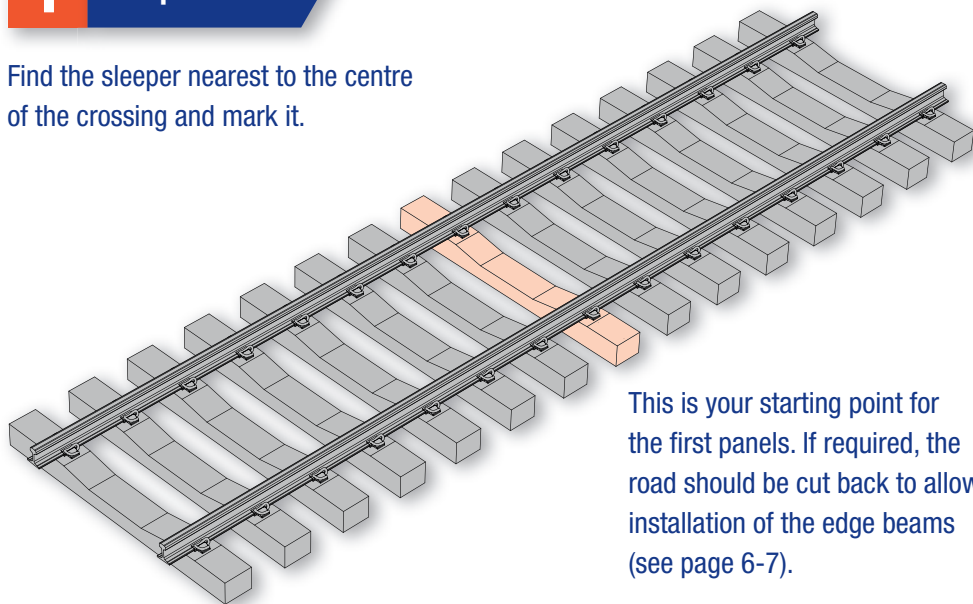
Phone: **+44 (0)1422 317 473**

Email: **[support@rosehillrail.com](mailto:support@rosehillrail.com)**

# 1

## Preparation

Find the sleeper nearest to the centre of the crossing and mark it.

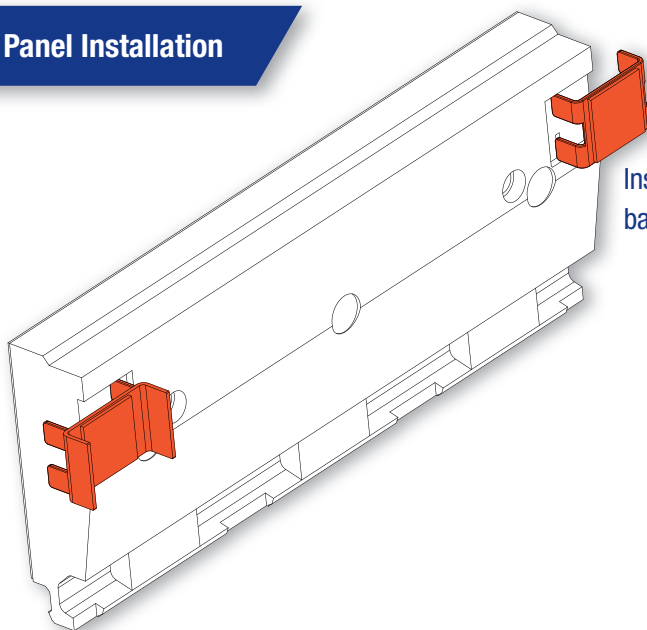


This is your starting point for the first panels. If required, the road should be cut back to allow installation of the edge beams (see page 6-7).

# 2

## Gauge Panel Installation

Insert the winged baseplate.



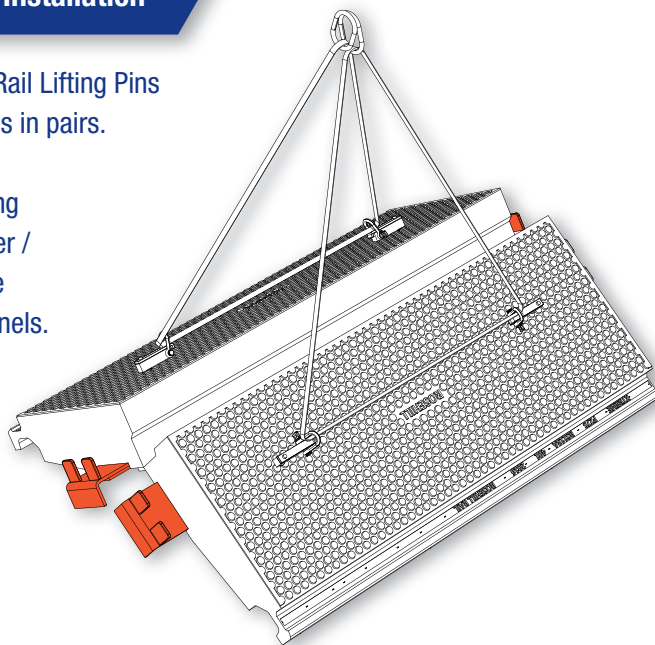
Insert the turret baseplate.

# 3

## Gauge Panel Installation

Use two sets of Rosehill Rail Lifting Pins to install the gauge panels in pairs.

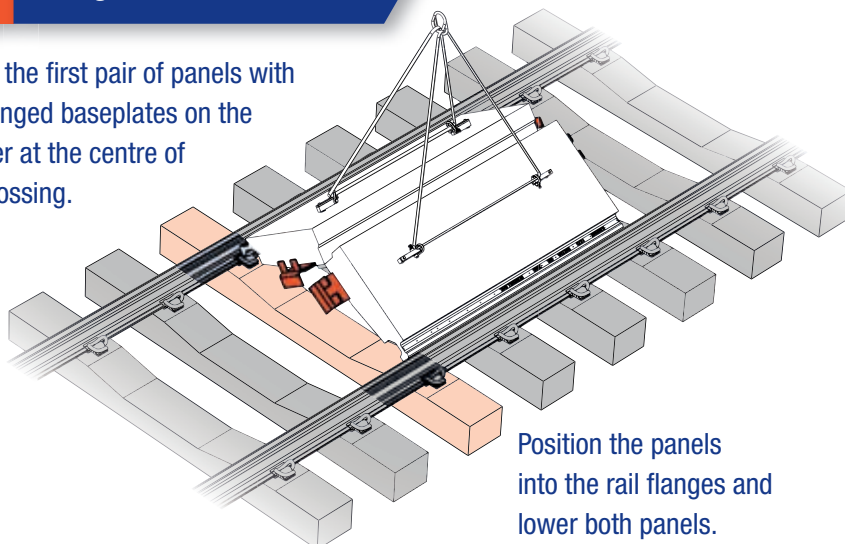
**!** Check the rated lifting capacity of the telehandler / lifting machine is suitable for lifting the crossing panels.



# 4

## Gauge Panel Installation

Install the first pair of panels with the winged baseplates on the sleeper at the centre of the crossing.

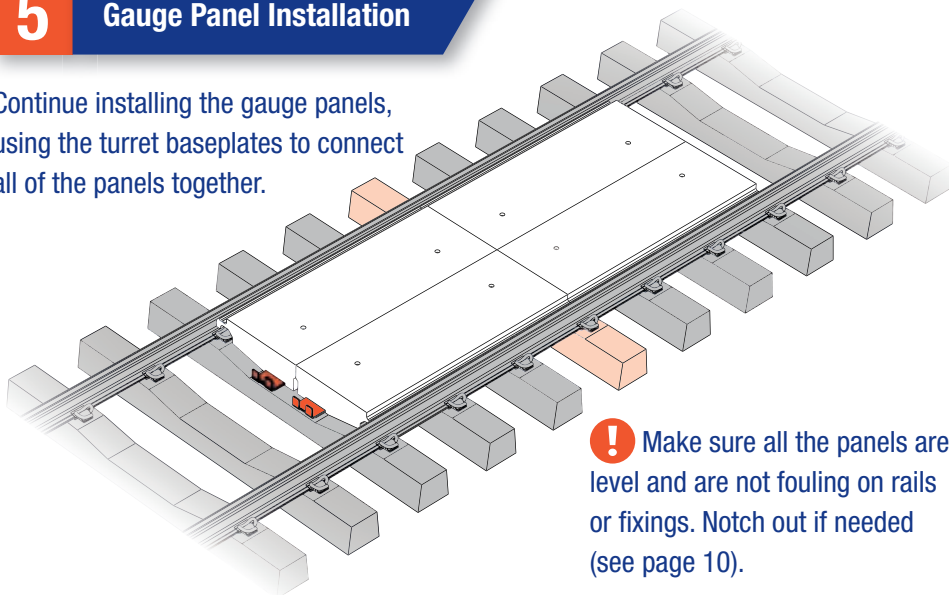


Position the panels into the rail flanges and lower both panels.

# 5

## Gauge Panel Installation

Continue installing the gauge panels, using the turret baseplates to connect all of the panels together.

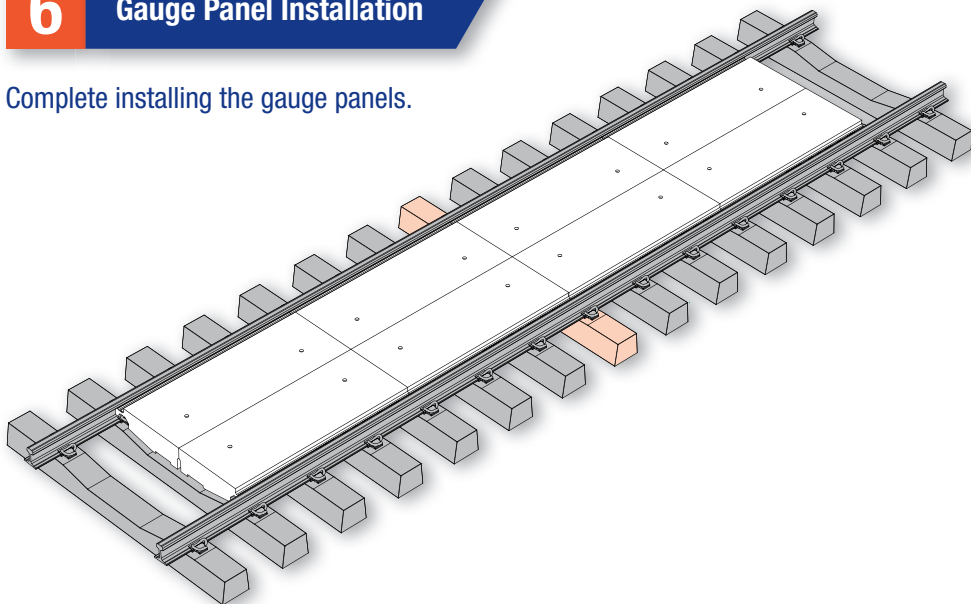


**!** Make sure all the panels are level and are not fouling on rails or fixings. Notch out if needed (see page 10).

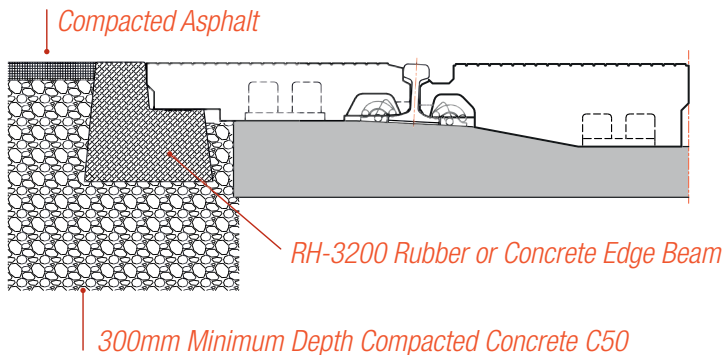
# 6

## Gauge Panel Installation

Complete installing the gauge panels.



### Rosehill Rail Rubber or Concrete Edge Beams

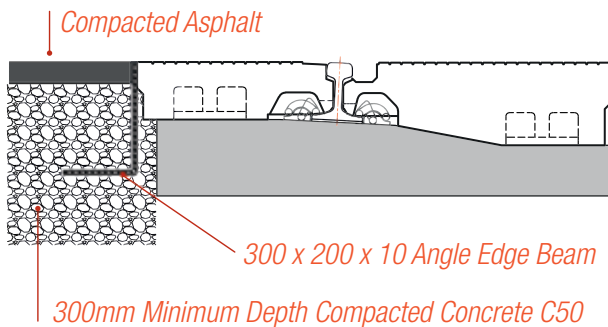


- 1 Calculate the position of the edge beams, where possible, to avoid the wheel paths of road vehicles over the joints.
- 2 Prepare trenches for the edge beams - 550mm wide x 630mm deep.
- 3 Pour sufficient lean mix concrete, compacted to 300mm deep, leaving 330mm from the rail top. Compact the concrete using a vibratory compactor.
- 4 Lift rubber edge beams into position using Rosehill Rail Lifting Pins. Use appropriate lifting equipment for the concrete beam.
- 5 Level the beam with the top of the rail.
- 6 Install Rosehill Rail field panels at either end of the beam and adjust the position of the beam to ensure a tight fit of the panels against the rail.

## Angle Edge Beams

The dimensions of the beam are 300mm x 200mm x 10mm. The 200mm leg is normally horizontal and should be facing away from the track sitting on compacted lean mix concrete, leaving the top of the vertical face pressed against the Rosehill Rail field panel, level or no more than 5mm below, the top of the panel.

A further layer of lean mix is then placed on top of the horizontal base – leaving sufficient allowance for the final road surface of asphalt, or other appropriate material.



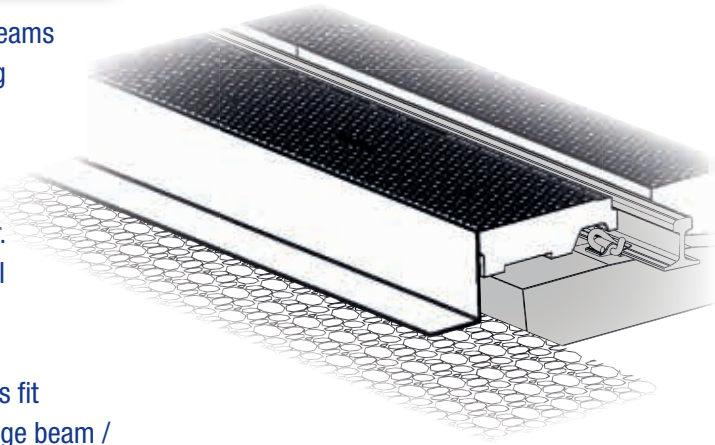
- 1 Prepare trenches for the edge beams - 350mm wide x 600mm deep.
- 2 Lay approximately 300mm depth of lean mix concrete in trenches for the edge beams, compact and adjust if necessary to measure 300mm from the rail top, depending on the orientation of the edge beam.
- 3 Layout all edge beams, top edge level with the top of the field panels or no more than 5mm below the top of the panel.
- 4 Wedge the edge beam and field panels tightly against the rail head using timber packed between the edge beam and road excavation.
- 5 Fill behind the edge beams with lean mix concrete and compact to leave sufficient allowance for the final road surface.
- 6 Fill the remaining void with compacted asphalt / road surface, take care not to damage the field panels. The road surface must finish level with the top of the field panels and edge beams.



## 8

### Field Panel Installation

Install field panels into edge beams from the centre of the crossing outwards. Again use winged baseplates on the centre sleeper and turret baseplates to connect the panels together. Position the panels into the rail flange and lower.

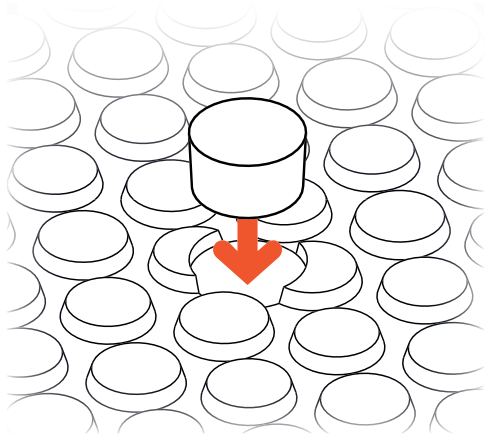


Make sure the field panels fit tightly between the rail and edge beam / ballast infill.

## 9

### Insert Panel Plugs

Once all panels have been installed, insert the plugs into the lifting holes on all panels.

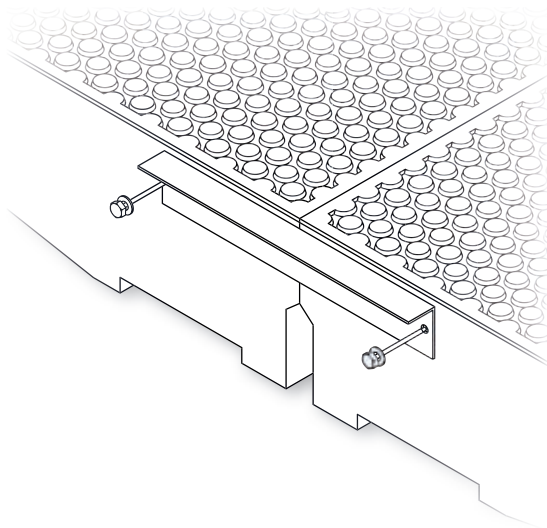


# 10

## Fit Deflector Plate

Once all plugs have been inserted, attach deflector plates to both ends of the crossing.

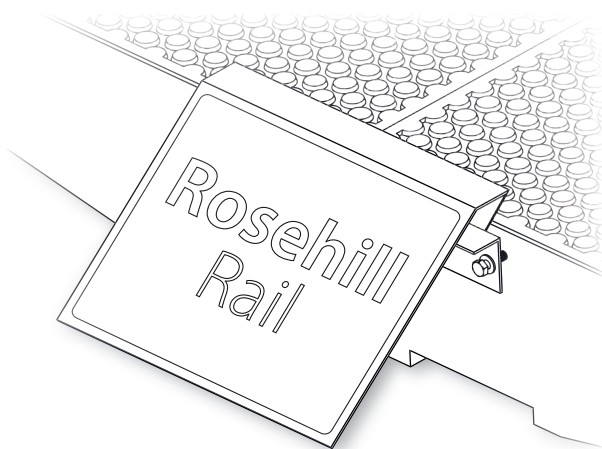
Position the bracket, centred across the gauge panels and 3mm below the top of the panels. Mark the position and pre-drill the holes for the fixings. Attach the bracket, leaving a gap between the bracket and panels.



# 11

## Fit Deflector Plate

Insert the deflector plate between the bracket and panels. Tighten the fixing bolts.



# 12

## Final Checks

### ! Panel checks

- Check that all the panels fit correctly and are level, without vertical steps and sit at the correct height.
- Check that the field (cess) panels fit tightly between the rail and edge beam / ballast infill.
- Check that the wheel flange-ways are aligned and unobstructed.
- Check that all the lifting holes are plugged.

### ! Deflector plate check

- Check that deflector plates are flush or slightly lower than the panels and correctly fitted in accordance with the direction of rail traffic.

# 13

## White Lining

In depot or off-track situations apply white lining as required.

## Notching Out

You may need to notch a relief in the rubber 'lip' where it sits into the flange of the rail, because of rail clips, chairs, welds, fishplates, etc. This small cutout can be done with a reciprocating saw or similar.

## Maintenance Inspections

Inspect in accordance with the regime set by the railway authority / crossing owner. Visually inspect the crossing to ensure the panels are correctly positioned and are at the correct height. To inspect baseplates, individual sleepers and / or the track bed, remove the panels (see below).

Inspect the baseplates to make sure they still retain the rubber pad that helps to alleviate fretting on the sleeper and inspect the turrets for any bending. If either of these has occurred then a new baseplate should be fitted. Make sure that the panels are still correctly supported, that there are no signs of splits in the flange-way or any surface damage.

Correct any such deterioration as a matter of urgency as this could be detrimental to the life of the crossing panels and may affect the warranty.

Ensure that there is minimal vertical movement when the panels are reinstalled.

## Removing Panels

Do not use lifting pins to extract a panel until it is completely free from the edge beam and adjacent panels. Instead, insert crowbars into the lifting holes within the panel and ease the panel back so it is free from obstruction, then insert the lifting pins and continue to lift the panel(s) correctly.

For manual applications, insert rail slewing bars – pull the bars back towards the nearest tarmaced or concreted area perpendicular to the track. The panel edge that is located in the centre of the gauge area should now be being levered up. It should now be possible to lift the panel.

**Note:** installed panels will be connected to adjacent panels by baseplates.

## Disposal / Recycling of Panels

Our panels are made from recycled rubber and polyurethane binder, so can be recycled.